

## (57) Abstract:

A method and an apparatus for examining a sample by means of mass spectrometry.

5 According to the method, the solution comprising the sample to be examined is vaporised in a vaporiser, the vaporised sample solution is sprayed, using a gas flow, into a corona discharge zone, where the examined sample is ionised according to the APCI method, using a corona discharge, to generate gas phase ions, and the ions are separated and directed to a detector. According to the present invention, a vaporiser is used, which is

10 fabricated as a micromechanical structure which comprises the flow channels for the solution and for the carrier gas possibly used for feeding the solution, as well as the heater of the vaporiser, and which are all included in a monolithic structure. The solution is especially suitable for cases in which a very sensitive analysing technique is needed, or in which the available sample quantity is very small (less than 1  $\mu$ L).